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CLAIMS

1. An underwater storage installation for storing a cryogenic liquid, particularly liquefied natural gas, of the type comprising
- a base acting as a foundation and resting (14) on the sea bed (16);
  - at least one underwater storage cell (18) for storing the cryogenic liquid, this storage cell (18) being connected to the base that acts as a foundation (14);
  - at least one support column (20) rising from the storage cell (18) to above the water level;
  - a platform (6), particularly a liquefied gas production platform, mounted on the support column (20);
  - cryogenic liquid supply (22) and discharge (24) pipes running between the storage cell (18) and the platform (6),
- characterized in that the storage cell (18) comprises a closed outer enclosure made of concrete (40), a vapor barrier (60) arranged inside the outer enclosure (40) and defining a watertight space, in that the outer enclosure (40) and the vapor barrier (60) define a first annular space (70) between them, in that the storage cell (18) comprises spacer pieces (80) arranged in said first annular space (70) which hold the enclosure (40) and the vapor barrier (60) some distance from one another, in that the installation comprises drainage means (50) suited to draining off any water that might enter and accumulate in said first space (70), in that it comprises a self-supporting cryogenic liquid storage tank (90), and in that the storage tank (90) and the vapor barrier (60) define a second separating space (100) in which thermal insulation (110) is placed.

2. The storage installation as claimed in claim 1, characterized in that the drainage means comprise one or several drainage sumps (50) formed in the lower part (42) of the outer enclosure (40), and in that the  
5 drainage sump (50) is connected to water discharge means (52, 54).

3. The storage installation as claimed in either one of claims 1 and 2, characterized in that the vapor  
10 barrier (60) is made of a metal sheet, particularly one made of standard carbon steel with no special cryogenic properties.

4. Storage installation as claimed in any one of  
15 claims 1 to 3, characterized in that the self-supporting storage tank is made of special cryogenic steel (9% nickel or stainless steel).

5. The storage installation as claimed in any one of  
20 claims 1 to 4, characterized in that the thermal insulation is perlite (114) or glass wool (112).

6. The storage installation as claimed in any one of claims 1 to 5, characterized in that the spacer pieces  
25 (80) are made of plastic, particularly of thermoset resin.

7. The storage installation as claimed in any one of the preceding claims, characterized in that it  
30 comprises at least two storage cells (18), and in that it comprises, for each storage cell (18), a support column (20).

8. The installation as claimed in claim 7,  
35 characterized in that, for each of the storage cells (18), the installation (2) comprises a set of pipes comprising at least one individual supply pipe (22) and one individual discharge pipe (24) for this storage

cell (18), and in that each set runs along inside the respective support column (20).

5 9. The installation as claimed in any one of the preceding claims, characterized in that the support column (20) of at least one storage cell (18) is arranged on an opposite side of the storage cell (18) to at least one other storage cell (18).

10 10. The installation as claimed in any one of the preceding claims, characterized in that it further comprises a transfer installation (10) designed to transfer cryogenic liquid from the platform (6) to a transport ship (12).

15 11. The installation as claimed in claim 10, characterized in that the transfer installation (10) comprises a jib (13A) that can move with respect to the platform (6) and rigid pipes (13B) arranged along this  
20 jib (13A), together with a set of flexible pipes (13C) mounted at the end of the rigid pipes (13B), and in that the flexible pipes (13C) are designed to be connected to the transport ship (12).